DOCUMENT RESUME

ED 338 240 IR 053 728

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TITLE The University of Michigan Engineering Libraries' Training Manual. 1991 Revision.
INSTITUTION Michigan Univ., Ann Arbor.
PUB DATE 25 Jul 91
NOTE 51p.
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Academic Libraries; *Engineering; Higher Education; Instructional Materials; *Job Training; Library Education; Library Services; Online Systems; *Reference Materials; *Reference Services; Staff Development; Training Methods
IDENTIFIERS University of Michigan Ann Arbor

ABSTRACT

Developed in response to a trend toward using hourly students and library school graduate students at the reference desk, this training manual provides basic training for library staff involved in providing engineering reference services. It integrates traditional and electronic resources into a 10-unit, 6- to 8-week program of instruction. The 10 units provide an introduction to the following areas: an introductory tour of the library; basic reference sources; basic reference sources--indexes and abstracts; advanced reference sources; advanced reference sources--company information; advanced reference resources--handbooks; advanced reference sources--standards; and online database searching. A Research Libraries Information Network (RLIN) exercise is included. Each unit provides a list of either basic or advanced reference sources, and a set of questions that require the use of these sources. It is noted that question sets typically take 2 hours to complete. While most questions are straightforward, a number of "trick" items are included to reflect common mistakes clients often make when seeking information. Answer keys are provided at the end of the manual to assist trainers. (MAB)

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The University of Michigan

Engineering Libraries'

Training Manual

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1991 Revision

IR053228

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INTRODUCTION

Serving a College of Engineering with over 300 faculty and 6000 students, the University of Michigan's Engineering/Transportation and North Engineering Libraries hold over 500,000 volumes and one million pieces of microfiche. This training manual was developed for the Engineering Libraries in response to a trend toward using hourly students and Library School graduate students at our two reference desks. As with many other U.S. academic libraries, restricted staffing resources increased the need to develop an efficient training program that insured a high level of quality in reference services.

This training manual integrates traditional and electronic resources into a 10 unit, 6-8 week program of instruction. New staff members work through each unit in sequence as an introduction to the policies, services and collections of our Engineering Libraries. For each unit, an experienced staff member introduces the new employee to a body of information, allows him/her to complete a set of questions and then meets with her/him to review the unit. Typically, question sets take two hours to complete. While most questions are straight forward, we have included a number of "trick" items (such as question 4 in unit 3 or question 6 in unit 9) to reflect common mistakes clients often make in seeking information. In our experience, exposing new reference providers to these common pitfalls in training better prepares them for the realities of the job.

Concurrent with work on the ten training units, new staff members are exposed to work at the reference desk. In the first two weeks, they are assigned regular desk hours to observe the work of experienced unit members. As they cover more of the training units and are exposed to the facilities and collections, they are encouraged to take a more active part in assisting the person on duty. Gradually, the experienced staff member takes a more passive role, assisting only when the need arises. Ideally, this stage occurs at or near the completion of unit 10 of the training manual.

This approach to staff training has worked very well for us. In interviewing new employees at the end of training and in exit interviews, staff members credit the training program with preparing them for most of the questions they encounter at the reference desk and "easing" them into the position. This latter point is very important to us as most of our new hires arrive without background in the sciences and often a bit intimidated about working at an engineering reference desk.

This training manual is intended to provide basic training for those involved in providing engineering reference. It can be tailored to individual libraries by eliminating or adding units, questions or resources. Answers and instruction suggestions are provided at the end of the manual to assist trainers. The contents of this document were updated in the summer of 1991; in our experience updating should be done annually.

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UNIT 1

REFERENCE TRAINING CHECKLIST

TRAINER:_____

DATE:_____

INTRODUCTION

____ Introduction
____ Where to hang your coat/lockers
____ Time cards
____ Policies and procedures

REFERENCE DESK AREA

____ Reference desk/general set up
____ Reference hours sheet (behind desk)
____ Acronyms (cheat sheet on reference desk?)
____ MIRLYN and remote access terminals
____ Reference desk vertical file (types of materials)
____ Society file cabinet
____ Reference card catalog
____ Reference Handouts (additional handouts in RM. 308)
____ NTIS/ILL forms (and locations of additional forms)

GENERAL LOCATIONS WITHIN LIBRARY

____ General reference collection
____ Index and abstract area (approximately 100 indexes/abstracts in the Engineering Libraries)
____ IEEE conference proceedings: what are they, location and how to locate in card catalog
____ Society index table
____ Business table
____ Patent material
____ CAEN lab and Computing Center Lab
____ Phi Beta tutoring
____ Microfilm, microfiche, and microcartridge readers and printers (how to use, where to use them, and what to do if they break down)
____ Standards (hardcopy current, hardcopy superseded and IHS)
____ Documents (hardcopy and microfiche)
____ Phone books
____ College catalogs (NEL, UGL)
____ Shop manuals
____ Climatic data and how to locate it in the checklist
____ Atlases and Ann Arbor street map
____ Special microfiche collections: SAE papers, SME papers, AIAA papers, Robomatix, AI lab, CFR
____ Contents of the 4th floor cages

LIBRARY CATALOG AREA

_____ MIRLYN (new online catalog, LCSH subject headings)
_____ Card catalog (divided catalog?)
_____ Union List and serials listing for other libraries
_____ Shelflist (why is this file useful?)
_____ Michigan Reports
_____ Engineering Summer Conferences
_____ Special Collections
_____ Oversize
_____ Buhr Storage or Annex
_____ OOF
_____ New Title Shelf (NEL)
_____ Checklist
_____ Sorting Room (and temporary overflow areas)
_____ Call number arrangement of 3rd and 4th floors

REFERENCE DUTIES

_____ How to open the reference desk
_____ Reference shelving locations
_____ Index and abstracting shelving
_____ Reference shelving statistics
_____ Setting up the Zenith Terminal/CD-ROM
_____ How to use the UM phone system
_____ Accepting and registering searches
_____ Layout of the reference desk (i.e. handouts and contents of the drawers)
_____ Reference statistics keeping
_____ In person vs. phone questions
_____ Call back policy
_____ Special services: Library messengers, photocopy services, online search services, MITS

CIRCULATION AREA

_____ Red Star reserves
_____ Reserves and exams notebook
_____ UM College catalogs
_____ Hold Shelf
_____ Search process
_____ Keys to cages and staff lounge
_____ Pencil sharpeners, hole puncher and paper cutter
_____ Copy machines: keys, location and how to use, and what to do if they break down
_____ Vendacards and change for the copy machines

IMPORTANT LOCATIONS OUTSIDE THE LIBRARY

____ Location of campus and public phones
____ Location of restrooms
____ University Reserves

Name: _____
Date Reviewed: _____

UNIT 1
ENGINEERING TRANSPORTATION LIBRARY
INTRODUCTORY TOUR QUESTIONS

1. How many indexes and abstracts does the Engineering Library have?

2. Who processes your time cards?

3. What are the Library's reference hours?

4. A patron is looking for the most recent issue of Mechanical Engineering. Where is it?

5. A patron insists that "someone on the first floor" told them the Science magazine is in our Library. Is it? If so, what is the call number? If not, where is it?

6. Do we have Science 87 magazine?

7. Do we have AIAA Journal for 1975? If we do, what is the call number?

8. Do we have old exams for Math 102?

9. Where are the restrooms on the 3rd floor?

10. Where are extra copies of the reference handouts kept? Extra Interlibrary Loan forms?

11. The copier is out of paper. To whom should you refer the patron?

12. What is a Vendacard and where can I have one made?

13. A patron wants books on the subject of operations research. What source can you show them? Where do you look in this source?

14. Where are the call numbers beginning with HE shelved? Where are the call numbers beginning with QA shelved?

15. Where can a patron get change for the photocopiers?

16. Is there any material on patents in the vertical file?

17. Explain the difference between microfilm, microfiche, and microfilm cartridges? Where can patrons use them in our Library?

18. Where are journals on microfilm kept?

19. What does IEEE stand for? Where are the IEEE proceedings shelved?

20. What is the shelflist? Give two reasons to use it.

21. What is a conference proceeding?

22. Do we have a college catalog for the Engineering school at Stanford University?

23. Who is the Head Librarian of the Engineering Library?

Who is the Head of the Public Information Unit?

Name: _____
Date Reviewed: _____

UNIT 2
BASIC REFERENCE SOURCES

____ Ulrich's (Z 6941 .P461 1989-90; Reference Stand)

____ CASSI (Z 5521 .S72 1904-1990; Reference Stand)

____ Books In Print (Z 1215 .P91 1989-1990; Reference Stand)

____ Encyclopedia of Associations (AS 22 .E56 1991)

____ International Organizations (AS 22 .E561 1990)

____ World of Learning (AS 2 .W93 1989)

____ World Almanac (AY 67 .N5 W9 1990)

____ McGraw-Hill Encyclopedia of Science and Technology (Q 121 .M15 1987)

____ Interdok: Directory of Published Proceedings. Series SEMT (Z 7409 .D58)

____ British Library: Index of Conference Proceedings Received (Z 7403 .B855)

____ Acronyms, Initialisms and Abbreviations Dictionary (AS 8 .A187 1986-87)

____ International Acronyms, Initialisms, and Abbreviations Dictionary (AS 8 .I55 1985)

____ Encyclopedia of Chemical Technology (TP 9 .E55 1978)

____ Report Series Codes Dictionary (Z 6945 .A2 D55 1986) [Note earlier editions also]

____ Research Centers Directory (AS 25 .D59 1990)

BASIC REFERENCE SOURCES
QUESTION SET NO. 2

These questions are representative of those asked by our patrons. It is important to remember that patrons do not always give accurate information.

1. I need a picture of a jet turbofan for the cover of my term paper.

2. I need to know what journals there are on the food industry. particularly grocery stores. Are there any published in Norway?

3. What publications does the World Meteorological Organization produce?

4. Can you provide a list of faculty in electrical engineering at the University of Minnesota?

5. Is Electrical Power and Energy Systems indexed anywhere?

6. I think there was a conference held on metal forming in Hungary. I can't remember the title, but it took place in 1985.

7. I'm looking for the title of a conference held in Vienna in October, 1980 on pulp dissolving.

8. Is there a Canadian Bigfoot Information Center nearby?

9. What does ERZ mean? I think it has something to do with trains.

10. What is the J. Inst. Pet.? Does the library own this journal?

11. Where can I find a list of research institutes in Japan?

12. What is the chemical composition of agent orange?

13. Identify the source of the following report: ARC-CP. The report was published in 1952.

14. I am looking for the proceedings of the 1985 Helium Transfer in Space Workshop. Can I find them in the library?

15. Which country has the resevoir with the largest capacity?

16. Where is the Wright Air Development Center? I'm interested in locating a person doing government research.

17. What does LASER stand for?

18. What society sponsored the Forensic Science Symposium in 1974?

19. What is the difference between sweet chocolate and milk chocolate? How is chocolate made into bars?

20. Where can I find an introductory article and a list of basic references about vacuum metallurgy? I don't know anything about it; where should I start?

21. Provide the name of the executive director and phone number of the Earthquake Engineering Research Institute.

22. Is the 1967 edition of the Dictionary of Plastics still available? Who is the publisher?

23. What are Brix degrees used to measure?

24. When will Saturn set tonight?

25. Can you find where the ACM conference COMPINT 85 took place? Does the library have the proceedings?

Name: _____
Date Reviewed: _____

UNIT 3

BASIC REFERENCE SOURCES -- INDEXES AND ABSTRACTS

____ Engineering Index (Z 7913 .E57)

____ Applied Science And Technology Index (Z 7913 .I7)

____ Computer And Control Abstracts (QA 76 .A1 C783)

____ Electrical And Electronics Abstracts (Q 1 .S4)

____ Government Reports Announcements and Index (Z 7405 .R4 G717)
Government Reports Annual Index (Z 7405 .R4 G722)

____ Consumers Index (TS 156.25 .C76)

BASIC REFERENCE SOURCES - INDEXES AND ABSTRACTS
QUESTION SET NO.3

1. I'd like to find a consumer's review for the Porsche 944 Turbo and the Chevrolet Corsica.

2. Where can I find articles about electric railway systems operating in European countries, specifically West Germany?

3. I'm trying to design a CRT terminal that is easy on the eyes. What has been written on terminal ergonomics?

4. Do you know how I could find this book? The call number is PB-85872125 and I don't know the title. It concerns the heat treatment of metal and was published in 1985. How much would it cost to buy this item?

5. Where would you look to find general articles on:

   (a) computer graphics?

   (b) heat treatment of steel?

   (c) nuclear power plants?

6. I am looking for any government studies of seat belt usage in Michigan. Who sponsored the research?

7. J. Plesnik has done some work with computer graphics. Did he or she write anything in 1987?

8. Can you help me find a review of version 4.0 of "Flight Simulator"? I think it was released by Microsoft Corporation.

9. I would like to buy a fax machine. Are there any articles listing machines, their prices, and features?

10. I am looking for a general article by T. Williams about the DOS operating system. I think it was published in 1986.

11. Where did the Conference on Automated Manufacturing take place? It was held in 1987. Can you find any specific papers presented at the conference?

Name: _____
Date Reviewed: _____

UNIT 4

ADVANCED REFERENCE SOURCES -- MINISERIES ON COMPANY INFORMATION

____ Thomas Register (T 12 .T454 1990)

____ Standard & Poor's Register (HG 4057 .A2 P82 1990)

____ Michigan Manufacturers Directory (T 12.5 .M5 D61 1990)

____ Sweet's Catalog File (TA 215 .S97 1990)

____ Consultants and Consulting Organizations Directory (HD 69 .C6 C758 1989)

____ Predicasts F&S Index (Z 7164 .F5 F97 199-)

ADVANCED REFERENCE SOURCES -- MINISERIES ON COMPANY INFORMATION
QUESTION SET NO. 4

1. Can you find the weight and thickness available for Rmax roof insulation?

2. I want a list of all companies in the state that make printed circuit boards.

3. Can you find any information on Overly bullet resistant doors?

4. I'm looking for a job in Baltimore, MD. area with a consulting firm. I'm an aeronautical engineering major.

5. A Michigan alumnus, Marshall Brown, is the president of a big company now. I want to find out which one.

6. Can you tell me the name of a company in Marietta, Georgia, that makes flow meters?

7. I want to get in touch with someone at Great Lakes Bindery but I'm not sure where they are located in Michigan.

8. What is the address of General Devices, Inc.?

9. I'm going to be opening my own restaurant in a couple of months. I'd like to be able to display plastic models of some of the food we'll serve. Do any companies make that kind of thing?

10. Are there any companies that produce drugs for memory enhancement? I once read something on the subject, but I'm not sure where.

11. Do you have any product catalogs for stop valves?

12. I would like a list of the divisions and subsidiaries of Rockwell International Corporation.

13. I need to find out how to contact the Mine Safety Appliances Company. They are manufacturers of fluorescent gloves.

14. I am interested in the computer company Softech. Can you tell me if anything was written about their financial situation in 1986?

Name: _____
Date Reviewed: _____

UNIT 5
ADVANCED REFERENCE SOURCES

____ Statistical Abstract of the United States (HA 202 1990)

____ Composite Index for CRC Handbooks (Q 199 .C52 1977)

____ Merck Index (RS 356 .M5551 1989)

____ Modern Plastics Encyclopedia (TP 986 .A1 M72 1990)

____ Weather Almanac (QC 983 .R92 1984)

____ Jane's All The World's Aircraft (TL 501 .J33 1989/90)

____ International Critical Tables (Q 199 .N277)

____ CRC Handbook Of Chemistry And Physics (QD 65 .C517h 1989/90)

ADVANCED REFERENCE SOURCES
QUESTION SET NO. 5

1. Could you tell me how the chemical composition of raw sludge differs from the chemical composition of digested sludge?

2. I saw the Goodyear Blimp circling Michigan Stadium during a recent football game. A friend told me that there were actually **three** Goodyear Blimps. Is that true? Do those blimps have names?

3. I need to find out what the Consumer Price Index figures for telephone service were during the 1970s. Where should I look?

4. Where can I find the equation for the diffusivity of heat?

5. My new restaurant will display plastic models of the meals we'll serve. They **look** real, but I'm wondering whether it might also be possible to add fragrances to the plastic during the manufacturing process. Can you help me find a brief discussion of this topic?

6. I'm moving to Albany, New York, and I'd like to find out how many inches of snow they get in January.

7. I need a description of the motion of electrons in nitrous oxide.

8. I would like to see a few cross-sections and cutaway drawings of aircraft engines produced by the Rolls-Royce Company. Can you help me find some?

9. What is the molecular weight and molecular formula of D-Lysergic Acid Diethylamide. Is it a controlled substance?

10. What is an Altocumulus Cloud?

11. I need to find out the solubility of gases in some molten alloys. Where do I look?

12. Do you have the definition of Charles' Law for Gases?

13. I think that May Apple is some sort of herbal folk medicine. What exactly is it used for?

14. I need the names and addresses of companies that manufacture preformers--a type of machinery used in the manufacture of plastic.

15. What is the highest temperature ever recorded? When and where did it occur?

16. What is the boiling point of hydrogen peroxide?

17. I'm writing a paper on highway safety and would like to find out some statistics on car accidents in the U.S. during the 1970s and early 1980s. Do you know where I could find out which of those years had the greatest number of traffic fatalities?

Name: _____
Date Reviewed: _____

UNIT 6

ADVANCED RESOURCES MINISERIES ON HANDBOOKS

____ Materials Handbook (TA 403 .B8 1986)

____ Handbook of Materials Science (TA 403.4 .L97)

____ Marks' Standard Handbook For Mechanical Engineers (TJ 151 .S78)

____ ASME Handbook (TA 459 .A53)

____ Handbook of Engineering Mechanics (TA 350 .F63)

____ Standard Handbook For Civil Engineers (TA 151 .S78 1983)

____ Civil Engineering Handbook (TA 145 .U8 1959)

____ Structural Engineering Handbook (TA 635 .G28 1979)

____ SAE Handbook (TL 1 .S68 A4)

____ Metals Handbook: Desk Edition (TA 459 .A512 1985)

____ CRC Handbook of Tables for Applied Engineering Science (TA 151 .C13 1973)

____ Electronics Engineers' Handbook (TK 7825 .E341 1989)

____ Standard Handbook for Electrical Engineers (TK 151 .S785 1987)

UNIT 6
ADVANCED RESOURCES QUESTIONS

1. I want to design my model railroad to exact standards like the real ones. I want to see a split-switch turnout design.

2. Can you find the SAE Standard J1030? I don't really need the whole standard, just a summary.

3. I need to know the drag coefficients of cylinders and spheres.

4. What is the density of the alloy Gray Cast Iron?

5. I'd like to learn something about the way AM stereo receivers work. It would be even better if I could find a block diagram of such a receiver.

6. What is a "cofferdam"? A brief definition is all I need.

7. What is the chemical composition of lampblack?

8. What is a "tesla"?

9. Find a discussion of airfoil theory.

10. Can you find me a definition for metal freckling?

11. I need the calculations for an epicycle gear train; it is a standard type of part used in machinery.

12. I'm having a hard time understanding how the moisture content of wood can sometimes exceed 100%. Can you tell me how those figures are arrived at?

13. I need to see some basic guidelines prescribing illumination in the design of buildings.

14. I would like the melting point of resins used in shell-molding of metals.

15. Find a discussion of Stress-Strain relations.

16. I need to know the properties and various types of cellulose.

17. Is there a standard for the dimensions of license plates? I just need to know the diameter of the bolt holes.

18. Can you find the efficiency rates for different processes for wastewater treatment?

Name: _____
Date Reviewed: _____

UNIT 7

ADVANCED REFERENCE SOURCES - INDEXES AND ABSTRACTS

____ Applied Mechanics Reviews (TN 1 .A56)

____ Microcomputer Index (QA 76 .A1 M2)

____ ISMEC: Mechanical Engineering Abstracts (TN 1 .A55)

____ Metals Abstracts (TN .M577)

____ World Translations Index (Z 7401 .W953)
[also see the earlier World Transindex]

____ Transportation Research Board. HRIS Abstracts (Z 7164 .N38)

____ Pollution Abstracts (Z 5853 .S22 P78)

____ STAR: Scientific and Technical Aerospace Reports (TL 501 .S42)

____ IAA: International Aerospace Abstracts (TL 501 .I617)

ADVANCED REFERENCE SOURCES - INDEXES AND ABSTRACTS
QUESTION SET NO. 7

1. I am looking for papers or journal articles about a landing rover developed for use on Mars.

2. I got this article from Metals Abstracts, now how do I find it? "Dislocation Bias in Dilute Alloy." 86-03-13-0180

3. My topic is highway beautification; where can I find some conference proceedings, magazine articles, and technical reports?

4. I need information on mathematical models of turbulent flow. Does the library have any current materials?

5. Can you help me find any reviews of the latest project management software?

6. Can you find me a listing of some recent aerospace research done at Michigan Technological University?

7. I'm looking for an article published in the mid-80s by B. Chadwick on the commercial uses for blimps. Can you help?

8. I need information on the high temperature effects of oxidation. Do you have any current information?

9. I am looking for an English translation of a Japanese patent: JP/52-077764. What is the full name of the organization responsible for the translation of this document?

10. I need to find an article on the environmental impact of sulphur emissions on forests. Where should I look for recent articles?

11. I am interested in automatic flight control of airplanes. Can you help me find some journal material?

12. Where can I find an abstract describing a method for improving adhesion between rubber and metal? Someone at Firestone was responsible for developing it. I need to find out whether it was patented.

13. I need to learn the author of an article. It first appeared in the journal Myasnaya Industriya SSSR in 1987, and in the following year was translated into English. Can you help?

14. I am looking for a manual published by the Royal Association for Disability and Rehabilitation. It concerns the motoring mobility of disabled people and I think it was published around 1985. Can you help me find a summary of it?

15. Do you have this NASA publication? The report number is N87-27711. Where can I find it?

16. Where can I find a review of Robots and Automated Manufacture? The review was written by UM Professor Paul Ranky and published around 1985.

17. Have any articles on crack detection in concrete been published recently?

18. Can you help me find out where some of the reviews of the HP LaserJet IID appeared in 1989?

19. Can you help me find some articles about the production of methane by cattle?

Name: _____
Date Reviewed: _____

UNIT 8
ADVANCED REFERENCE SOURCES -- STANDARDS, PATENTS, AND SOCIETY PUBLICATIONS

____ IHS Industry Standards.

____ IHS Military Standards

____ IHS Historical Standards

____ Patent Collection

____ IEEE Publications Index (society index table)

____ ASCE Index (society index table)

MINISERIES
QUESTION SET NO. 8

1. Do you have any recent patents for snow shovels? What are the two ways one could search for these patents?

2. Do you have ANSI Standard C37.27 from 1987? How many pages is it?

3. Do you have an IEEE paper by T. Howland on fault diagnosis? I think it might have been published in 1985 or 1986.

4. I need a standard for barrier-free restroom design. Do you have anything?

5. I am looking for a patent held by Mazda on the four-wheel drive steering system. How would I go about looking for this patent?

6. Do you have this patent? Its number is 4,100,205.

7. I need to take a look at ASTM Standard D955-73. Do you have a copy of it?

8. I found this citation in the ASCE Index--how do I find the item: "Index to evaluate lake restoration" by Donald B. Porcella, Spencer A. Peterson, and David Larsen. EE6:DEC80:1151:15893.

9. I am looking for an IEEE standard from 1951; standard number 196 on transducers. Can you help me find it?

10. I'm looking for a patent from Tektronix, Inc. for a cathode ray tube from 1962.

11. Can you tell me where to find Federal Standard 63A? Does the library have this standard?

Name: _____
Date Reviewed: _____

UNIT 9
ONLINE SEARCH PROBLEMS
(NTIS, INSPEC, COMPENDEX, METADEX)

Please include a short summary (one or two sentences) of your search strategy or what you might do differently in future searches. Include printouts for each database searched.

1. Can you find me journal articles on wind shear and aircraft.

2. Publications in English on computer viruses.

3. Try to find an article by James Duderstadt published in 1981. It has something to do with neutron transport. (Remember to always expand on an author search.)

4. I need to find a document on Michigan copper deposits by an author whose last name is Crisman. Can you help?

5. Articles dealing with crack fatigue in steel from 1987.

6. Try to find a 1977 paper on gauge theories. (Try it with this much information ... then knowing the author is Richard Feyman.)

7. I am a professor from Materials Science. Can you locate for me everything written about the effects of gamma radiation on zirconium?

8. Is there any recent material written by the government about the space shuttle Challenger disaster? Can you limit the search to items where Challenger appears in the title of the article?

9. I would like to find some information about hybrid integrated circuits. Can you locate the identifiers and descriptors used for this record? I would also like to have the abstracts for these articles. (Please try type one or two in the abstract format.)

10. Locate the article, "A new type hybrid IC in a transfer-molded standard package" by Hideto Nitta in both Compendex and Inspec. Compare the full records. What are the similarities between the two files? What are the differences? Do the two files use the same descriptors? Do they use the same identifiers?

Name: _____
Date Reviewed: _____

UNIT 10
RLIN EXERCISE

1. Find the title "The Joy of Minis and Micros." Is there a Michigan record. What is the call number?

2. Find a book on managing picture collections by H.P. Harrison. Does the Transportation Library own this title? How many copies do they own?

3. Find the record for the 11th International Conference on Fluid Sealing. Does the Engineering Library own this book?

4. Find the record for the Proceedings of the International Conference on Wind Engineering.

5. The journal Diesel Power has changed its name and the new title has the ISSN 0012-2610. What is the new title for the journal? Can you tell if yet another title change has taken place? (Hint: you might want to try looking at a full display of the record.)

6. The patron is looking for a journal Systems, Man, and Cybernetics. Can you find the Michigan record for it?

7. Can you tell me what other large research libraries own the journal Yachting? Where can you find the meaning of the location codes?

8. I would like to know the full title for ACI Special Publications, no. 60. Can you find a record for this title?

TRAINING UNITS SOLUTIONS

Answers to Unit 1

1. about 100

2. The Unit Head (Bob Schwarzwalder) processes time cards for Librarians, Library Residents and Library Associates. The Engineering Library secretary processes time cards for hourly students.

3. M-Th 9-5PM, 7-9:30PM; F 9-5PM; Sat 2-4PM; Sun 2-4PM, 7-9:30PM

4. It is in the current unbound serials area, near the reference desk.

5. No, it is in the Undergraduate Library (UGL) and the North Engineering Library (NEL).

6. No; Publication ceased in 1986.

7. Yes; TL 780 .A48.

8. No, they are in the LS&A reserves, 3rd floor UGL across the hall from the Engineering/Transportation Library (E/TL).

9. They are on the extreme east wall of the third floor near the public elevators.

10. Extra copies of the reference handouts and ILL forms can be found in the file cabinets behind the reference desk.

11. Refer the patron to the E/TL circulation staff.

12. A Vendacard is a plastic debit card used in the library's photocopiers and microform reader/printers. Vendacards may be purchased from vending machines in the basement of UGL or in the NEL.

13. Use keyword searching on MIRLYN.

14. HE ===> 4th floor UGL QA ===> 3rd floor UGL

15. A change machine is in the basement of UGL.

16. Yes

Answers to Unit 1 (continued)

17. Microfiche are rectangular pieces of photographic film containing reduced printing and/or graphics. Microfilm contains the same data, but in a 16mm or 35mm film format. Microfilm cartridges are plastic cartridges containing 16mm microfilm. Machines for using all three formats are located on the main floor of the E/TL across from room 308.

18. Journals on microfilm are kept in the metal cabinets across from room 309 UGL.

19. **I**nstitute of **E**lectrical and **E**lectronics **E**ngineers; IEEE conference proceedings are shelved on the east wall of the E/TL main floor (3rd floor UGL).

20. A shelflist is a collection of catalog cards arranged in call number order. They are used: (1) to record information on individual items (special location, status, etc.), (2) to show volume and issue holdings of serials, and (3) to conduct inventories.

21. A conference proceeding is the published contents of a conference, symposium, congress or academic meeting. Conference proceedings consist of collected papers similar to journal articles, but frequently more current.

22. College catalogs are located in the UGL reference area or in NEL near the reference desk.

23. Daisy Wu Bob Schwarzwalder

Answers to Unit 2

1. McGraw-Hill Encyclopedia of Science and Technology, vol. 18, p.617.

2. There are at least two. The section on "FOOD AND FOOD INDUSTRIES--Grocery Trade" in Ulrich's is helpful for this.

3. International Organizations, pt. 1, entry #2952, p. 340.

4. World of Learning, p. 1684.

5. It's indexed in Science Abstracts, according to Ulrich's.

6. British Library Conference Index (1985 vol.), p. 559

7. "Dissolving pulp: resource of the future. 5th Intl. Dissolving pulps conf." (Interdok, vol. 16)

Answers to Unit 2 (continued)

8. There's one in Caro, MI., according to the Encyclopedia of Associations.

9. "Electric Locomotive Repair Plant" (International Acronyms, Initialisms, and Abbreviations Dictionary, p. 200)

10. Journal of the Institute of Petroleum. (CASSI, p. 1382). It is no longer being published, but the library does hold vols. 25-59.

11. World of Learning beginning on page 801

12. Encyclopedia of Chemical Technology, vol. 21, p. 264

13. Great Britain Aeronautical Research Council. (Dictionary of Report Series Codes, 1st edition)

14. According to Interdok, the proceedings appeared in Cryogenics 26(2), which is held by the E/T Library.

15. Uganda. (World Almanac)

16. Wright-Paterson A.F.B., Ohio. (Report Series Codes Dictionary, p. 645)

17. **L**ight **A**mplification by **S**timulated **E**mission of **R**adiation, according to the McGraw-Hill Encyclopedia of Science and Technology, vol. 9, p. 579

18. American Chemical Society. (Interdok, vol. 11)

19. McGraw-Hill Encyclopedia of Science & Technology, vol. 4, p. 106-9

20. McGraw-Hill Encyclopedia of Science & Technology, vol. 19, p. 118-20

21. Encyclopedia of Associations, entry #6915, p. 757

22. Yes--as a paperback, published by Littlefield. (Books in Print)

23. Sucrose content in solutions. (Encyclopedia of Chemical Technology, vol. 23, p. 756)

24. World Almanac. (Some interpolation will be necessary)

25. In Montreal (according to Interdok, vol. 21). The proceedings are held by the E/T Library.

Answers to Unit 3

1. Consumers Index

2. Electrical and Electronics Abstracts

3. Computer and Control Abstracts (under "ergonomics" or "terminals and graphic displays")

4. Government Reports Annual Index (1985)

5. Applied Science And Technology Index

6. Government Reports Annual Index

7. Computer And Control Abstracts (1987 Author Index)

8 Consumers Index. One can search using the "Company Name\\Product Name Index."

9. Consumers Index. These can be found in the "Subject Index" under "Facsimile Systems and Equipment."

10. Computer and Control Abstracts (1986 Author Index)

11. Birmingham, England. Computer and Control Abstracts (1987 Conference Index)

Answers to Unit 4

1. Sweet's Catalog File, catalog code 07220/RMA

2. Michigan Manufacturers Directory, p. 740

3. Sweet's Catalog File, catalog code 17030/OVE

4. Consultants and Consulting Organizations Directory, either (1) scanning the Subject Index's "Engineering--Aeronautical" listings for organizations in or around Baltimore, or (2) checking the Geographic Index's entries for Baltimore (and cities nearby), and then using the Descriptive Listings to see which organizations are involved with aeronautical engineering.

5. Standard & Poor's Register, vol. 2, p. 159. The patron didn't realize that the name should have been "Browne."

6. Thomas Register, vol. 8, p. MET/15806

7. Michigan Manufacturers Directory, p. 628

Answers to Unit 4 (continued)

8. Thomas Register, vol. 15, p. 1274
   Standard & Poor's Register, vol. 1, p. 1150

9. Thomas Register, vol. 5, p. FOO/10198

10. Predicasts F&S Index, using the SIC code for "memory enhancers"

11. Listed under "Valves: Stop" in vol. 14 of the Thomas Register. The ThomCat volumes contain some catalogs.

12. Thomas Register vol. 16, p. 2632
    Standard & Poor's Register, vol. 1, p. 2321-2
    Standard & Poor's Register, vol. 3, p. 837

13. Standard & Poor's Register, vol. 1, p. 1840
    Thomas Register, vol. 15, p. 1913

14. Predicasts F&S Index (1986), vol. II, p. 760

Answers to Unit 5

1. Composite Index for CRC Handbooks, p. 379

2. Yes, Goodyear currently operates three GZ-20A airships, named "America," "Columbia," and "Enterprise," according to Jane's All The World's Aircraft, p. 672.

3. Statistical Abstract of the United States, Table no. 762, p. 471

4. CRC Handbook Of Chemistry And Physics, p. F-91

5. Modern Plastics Encyclopedia, p. 188, 190

6. 15.6 inches (Weather Almanac, p. 612)

7. International Critical Tables, vol. 6, p. 116

8. Jane's All the World's Aircraft, p. 721-6

9. Merck Index, entry #5507, p. 886-7

10. Weather Almanac, p. 245, 261

11. International Critical Tables, vol. 3, p. 270-1

12. CRC Handbook Of Chemistry And Physics, p. F-85, F-97

13. Merck Index, entry #7521, p. 1201

Answers to Unit 5 (continued)

14. Modern Plastics Encyclopedia, p. 863

15. Weather Almanac, p. 309

16. International Critical Tables, vol. 1, p. 106, 162
CRC Handbook Of Chemistry And Physics, p. B-94
Merck Index, entry #4725, p. 760

17. Statistical Abstract of the United States, Tables 1035-6, p. 606

Answers to Unit 6

1. Standard Handbook for Civil Engineers, figs. 19-24 - 19-26
Civil Engineering Handbook, sect. 2, figs. 24-5

2. SAE Handbook, vol. 3, p. 26.17 - 26.19

3. Marks' Standard Handbook For Mechanical Engineers, p. 11-75ff
CRC Handbook of Tables for Applied Engineering Science,
Table 5-21 (A), p. 515

4. Metals Handbook, p. 1-49
Handbook of Materials Science, vol. II, p. 13-4

5 Electronics Engineers' Handbook, p. 21-49ff

6. Standard Handbook for Civil Engineers, p. 7-67
Civil Engineering Handbook, sect. 8, p. 109-13

7. Materials Handbook, p. 431-2. Lampblack is practically pure carbon.

8. Electronics Engineers' Handbook, p. 29-30, 29-31
Standard Handbook for Electrical Engineers, p. 1-3, 1-4
Marks' Standard Handbook For Mechanical Engineers, p. 15-4

9. Marks' Standard Handbook For Mechanical Engineers, p. 11-69ff
Handbook of Engineering Mechanics, chap. 72

10. Metals Handbook, p. 1-18

11. Marks' Standard Handbook For Mechanical Engineers, p. 8-7, 8-8

12. Handbook of Materials Science, vol. IV, p. 25-6

13. Standard Handbook for Civil Engineers, p. 15-78ff

14. Metals Handbook, p. 23-6 and 23-7, (Table 2: "Properties of 10 Synthetic Resins Used in Shell Molding")

Answers to Unit 6 (continued)

15. Marks' Standard Handbook For Mechanical Engineers, p. 5-2ff
Standard Handbook for Civil Engineers, p. 6-4ff
Handbook of Engineering Mechanics, p. 33-3ff

16. Materials Handbook, p. 162-165

17. SAE Handbook, vol. 4, p. 27.06

18. Standard Handbook for Civil Engineers, Table 22-7, p. 22-31
CRC Handbook of Tables for Applied Engineering Science, Table 8-30, p. 738

Answers to Unit 7

1. Scientific and Technical Aerospace Reports and International Aerospace Abstracts list many such papers under headings such as "roving vehicles" or "Mars landing."

2. The entry which appeared on p. 20 of the March, 1986 issue of Metals Abstracts includes the citation for the original article.

3. "Highway Beautification" can be found in the HRIS Abstracts Retrieval Term Index.

4. International Aerospace Abstracts, listed under "Turbulence Models";
ISMEC: Mechanical Engineering Abstracts also lists some items under "turbulence" and "turbulent flow."

5. Microcomputer Index includes a "Project Management" section among the abstracts of software reviews (e.g., vol. 10, no. 4, p. 224-5).

6. Scientific and Technical Aerospace Reports 1988 annual index, p. C-119

7. HRIS Abstracts 19(4): 180; found by using the author index.

8. Metals Abstracts uses "Oxidation, High temperature effects" as a subject heading

9. World Translations Index, vol. 3, no. 10, entry #23200; "ITC" can be expanded by using the "Key to organizations" which appears in each issue of the World Translations Index.

10. Pollution Abstracts, looking in the subject index for terms such as "Trees," "Environmental Impact," or "Forests."

Answers to Unit 7 (continued)

11. International Aerospace Abstracts lists entries under the subject heading "Automatic Flight Control."

12. Metals Abstracts, April, 1988, abstract #55-0883

13. World Translations Index, vol. 3, no. 4, entry #7478

14. HRIS Abstracts 19(4), p. 79

15. Scientific and Technical Aerospace Reports, vol. 25, no. 21, p. 2969. The Library has a microfiche copy of the report: NASA-CR-180817.

16. It can be found in Applied Mechanics Reviews 40(7): 897-8.

17. ISMEC: Mechanical Engineering Abstracts, e.g., abstract numbers 89-00437I, 89-05224I, 89-06727I

18. Microcomputer Index 1989, abstracts #3281, #6900, #8380
Microcomputer Index 1990, abstract #1101

19. Pollution Abstracts lists some items under "Methanogenesis."

Answers to Unit 8

1. Using CASSIS one could immediately enter "snow adj shovel" in the **Title or Abstract** field. Alternatively, one could first try to find the appropriate class/subclass for snow shovels (294/54.5) in the Manual of Classification, and then generate a list of patents by using either recent issues of the Index of Patents or the CASSIS system.

2. We have **ANSI C37.27-87** on Industry Standards microfilm cartridge #2792. The standard is 12 pages in length.

3. The 1986 IEEE Publications Index leads one to a volume (EASCON '86--held by the library) containing the Howland paper.

4. In the Subject Index of the IHS Industry Standards, one can find **ANSI A117.1-86** listed under "barrier free design."

5. First, one needs to determine Mazda's assignee code. Most of their patents have been issued under the code 318480. As to their patents, note that there are two similar, but still distinct, groups of patents: (1) those dealing with four wheel drive systems, and (2) those dealing with four wheel steering systems. Only one of their patents -- 4,768,602 -- fits into **both** categories.

Answers to Unit 8 (continued)

6. It's contained on patent microfilm cassette #1978-078.

7. It can be found on cartridge #0141 of our collection of Historical Industry Standards.

8. The coding scheme employed is usually explained in the foreword to each volume of the ASCE Combined Index. In this case, the item begins on page 1151 of the December, 1980, issue of the Journal of Environmental Engineering.

9. It can be found on cartridge #7019 of our collection of Historical Industry Standards.

10. It's just a bit too old to be found by using CASSIS. It can be found by using the 1962 Index of Patents. Its number is 3,023,336.

11. **FED-STD-63A** can be found on Federal Specifications microfilm cartridge #AF08, according to the Numeric Index to the Military and Federal Standardization Service.

Answers to Unit 9

1. In COMPENDEX*PLUS.
```
s_wind()shear and
aircraft and dt=ja
```

2. In INSPEC or COMPENDEX*PLUS.
```
s computer()virus??
limit s1/ENG
```

3. In COMPENDEX*PLUS.
```
First:   e au=Duderstadt, j
Second:  s e4 or e5  [or whichever
         e#'s are relevant]
Third:   s s1 and py=1981 and
         neutron()transport
```

ANS: "Phase-space finite element methods applied to the first-order form of the transport equation"

4. In NTIS.
```
s au=crisman, ? and
michigan and copper
```

5. In METADEX.
```
s crack()fatigue and
steel and py=1987
```

6. In INSPEC. TRICK QUESTION...author's name is misspelled. (Feynman, not Feyman)

Remind trainee that often clients provide incorrect spellings of author names, ALWAYS EXPAND AUTHOR NAMES.

Answers to Unit 9 (continued)

```
e au=feyman, r  (find correct name)
s s1 and py=1977 and gauge()theor?
```

7. This question is inappropriate for a quick search. It requires an extended search and should be referred to the unit head. A quick search on METADEX might be done to provide a few references before the extended search.

```
s gamma()radiation and zirconium
```

8. In NTIS.

```
s challenger/ti and py=1988:1990
```

9. In INSPEC.

```
s hybrid()integrated()circuit? ?
t 1/8/1-n  <== to see id and de
               fields
t 1/7/1-2  <== for abstracts with
               references
```

10. There are a number of similarities between the two records as they contain the same fields in the same orders; however, the index terms (descriptors and identifiers) are quite different. COMPENDEX*PLUS has very broad descriptors as compared to INSPEC. This means that a descriptor search designed for COMPENDEX*PLUS would probably not work very well on INSPEC.

Answers to Unit 10

1.
```
fin tp joy of mini#
```
Michigan does own it.
Call # QA76.5.s82

2.
```
fin pn harrison and tw picture
```
Michigan does own it.
3 copies in all.

3.
```
fin cw conference fluid sealing
```
Michigan doesn't own the item.

4.
```
fin cw conference international wind
```

5.
```
fin issn 00122610
dis ful 1
```

6.
```
fin tp systems, man, and cyber#
dis ful <#>
```
Note: <#> represents the particular number of the record answering the question.

Answers to Unit 10 (continued)

7. fin tp yachting
   Use the term res to fin the number of clusters in serials. Other libraries' holdings will be listed by code at the bottom of the record you want. The meaning of the location codes can be found in the last section of the RLIN manual located in the bookshelves on the right side of the reference desk.

8. fin tw aci special publication#
   dis ful <#> Note: this is done in order to determine how "no. 60" will appear in RLIN records.
   fin tw aci sp-60